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<110> E.I. du Pont de Nemours

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<213> Zea mays

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<213> Zea mays

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<212> PRT
<213> Zea mays

<400> 4

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         35                  40                  45

Val Glu Ala Gln Ala Gln Ala Val Ala Lys Ala Ala Ser Val Ala Ala
     50                  55                  60

Leu Glu Gln Phe Lys Ile Ser Ala Asp Arg Tyr Met Lys Glu Arg Ser
 65                  70                  75                  80

Thr Ile Ala Val Ile Gly Leu Ser Val His Thr Ala Pro Val Glu Met
                85                  90                  95

Arg Glu Lys Leu Ala Val Ala Glu Glu Leu Trp Pro Arg Ala Ile Gln
            100                 105                 110

Glu Leu Thr Ser Leu Asn His Ile Glu Glu Ala Ala Val Leu Ser Thr
        115                 120                 125

Cys Asn Arg Met Glu Ile Tyr Val Val Ala Leu Ser Trp Asn Arg Gly
    130                 135                 140

Ile Arg Glu Val Val Asp Trp Met Ser Lys Lys Ser Gly Ile Pro Ala
145                 150                 155                 160

Ser Glu Leu Arg Glu His Leu Phe Ile Leu Arg Ser Ser Asp Ala Thr
                165                 170                 175

Arg His Leu Phe Glu Val Ser Ala Gly Leu Asp Ser Leu Val Leu Gly
            180                 185                 190

Glu Gly Gln Ile Leu Ala Gln Val Lys Gln Val Val Arg Ser Gly Gln
        195                 200                 205

Asn Ser Gly Gly Leu Gly Lys Asn Ile Asp Arg Met Phe Lys Asp Ala
    210                 215                 220

Ile Thr Ala Gly Lys Arg Val Arg Ser Glu Thr Asn Ile Ser Ser Gly
225                 230                 235                 240

Ala Val Ser Val Ser Ser Ala Ala Val Glu Leu Ala Leu Met Lys Leu
                245                 250                 255

Pro Lys Ser Glu Ala Leu Ser Ala Arg Met Leu Leu Ile Gly Ala Gly
            260                 265                 270
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Lys Met Gly Lys Leu Val Ile Lys His Leu Val Ala Lys Gly Cys Lys
275 280 285

Lys Val Val Val Val Asn Arg Ser Val Glu Arg Val Asp Ala Ile Arg
290 295 300

Glu Glu Met Lys Asp Ile Glu Ile Val Tyr Arg Pro Leu Ser Asp Met
305 310 315 320

Tyr Gln Ala Ala Ala Glu Ala Asp Val Val Phe Thr Ser Thr Ala Ser
325 330 335

Glu Thr Ser Leu Phe Ala Lys Glu His Ala Glu Ala Leu Pro Pro Val
340 345 350

Ser Asp Thr Met Gly Gly Val Arg Leu Phe Val Asp Ile Ser Val Pro
355 360 365

Arg Asn Val Ser Ala Cys Val Ser Glu Val Gly Ala Ala Arg Val Tyr
370 375 380

Asn Val Asp Asp Leu Lys Glu Val Val Glu Ala Asn Lys Glu Asp Arg
385 390 395 400

Leu Arg Lys Ala Met Glu Ala Gln Thr Ile Ile Thr Glu Glu Leu Arg
405 410 415

Arg Phe Glu Ala Trp Arg Asp Ser Leu Glu Thr Val Pro Thr Ile Lys
420 425 430

Lys Leu Arg Ser Tyr Ala Asp Arg Ile Arg Ala Ser Glu Leu Glu Lys
435 440 445

Cys Leu Gln Lys Val Gly Glu Asp Ala Leu Thr Lys Lys Met Arg Arg
450 455 460

Ala Ile Glu Glu Leu Ser Thr Gly Ile Val Asn Lys Leu Leu His Gly
465 470 475 480

Pro Leu Gln His Leu Arg Cys Asp Gly Ser Asp Ser Arg Thr Leu Asp
485 490 495

Glu Thr Leu Glu Asn Met His Ala Leu Asn Arg Met Phe Ser Leu Asp
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Thr Gln Asn
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<213> Oryza sativa

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tacacactgc accagtggag atgcgtgaga aacttgctgt tgcagaggaa ctatggcccc 180
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<213> Oryza sativa

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Val Ile Gly Leu Ser Val His Thr Ala Pro Val Glu Met Arg Glu Lys
35 40 45

Leu Ala Val Ala Glu Glu Leu Trp Pro Arg Ala Ile Ser Glu Leu Thr
50 55 60

Ser Leu Asn His Ile Glu Glu Val Ala Val Leu Xaa Leu Ser Thr Cys
65 70 75 80

Asn Arg Met Glu Ile Tyr Val
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<210> 7
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<212> DNA
<213> Oryza sativa

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<212> PRT
<213> Oryza sativa

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Leu Ala Val Ala Glu Glu Leu Trp Pro Arg Ala Ile Ser Glu Leu Thr
     50                  55                  60

Ser Leu Asn His Ile Glu Glu Ala Ala Val Leu Ser Thr Cys Asn Arg
 65                  70                  75                  80

Met Glu Ile Tyr Val Val Ala Leu Ser Trp Asn Arg Gly Ile Arg Glu
                 85                  90                  95

Val Val Asp Trp Met Ser Lys Lys Ser Gly Ile Pro Ala Ser Glu Leu
            100                 105                 110

Arg Glu His Leu Phe Met Leu Arg Asp Ser Asp Ala Thr Arg His Leu
        115                 120                 125

Phe Glu Val Ser Ala Gly Leu Asp Ser Leu Val Leu Gly Glu Gly Gln
    130                 135                 140

Ile Leu Ala Gln Val Lys Gln Val Val Arg Ser Gly Gln Asn Ser Gly
145                 150                 155                 160

Gly Leu Gly Lys Asn Ile Asp Arg Met Phe Lys Asp Ala Ile Thr Ala
                165                 170                 175

Gly Lys Arg Val Arg Cys Glu Thr Asn Ile Ser Ser Gly Ala Val Ser
            180                 185                 190

Val Ser Ser Ala Ala Val Glu Leu Ala Leu Met Lys Leu Pro Lys Ser
        195                 200                 205

Glu Cys Leu Ser Ala Arg Met Leu Leu Ile Gly Ala Gly Lys Met Gly
    210                 215                 220

Lys Leu Val Val Lys His Leu Ile Ala Lys Gly Cys Lys Lys Val Val
225                 230                 235                 240

Val Val Asn Arg Ser Val Glu Arg Val Asp Ala Ile Arg Glu Glu Met
                245                 250                 255

Lys Asp Ile Glu Ile Val Tyr Arg Pro Leu Thr Glu Met Tyr Glu Ala
            260                 265                 270

Ala Ala Glu Ala Asp Val Val Phe Thr Ser Thr Ala Ser Glu Thr Pro
        275                 280                 285

Leu Phe Thr Lys Glu His Ala Glu Ala Leu Pro Ala Ile Ser Asp Ala
    290                 295                 300

Met Gly Gly Val Arg Leu Phe Val Asp Ile Ser Val Pro Arg Asn Val
305                 310                 315                 320

Ser Ala Cys Val Ser Glu Val Gly His Ala Arg Val Tyr Asn Val Asp
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Asp Leu Lys Glu Val Val Glu Ala Asn Lys Glu Asp Arg Leu Arg Lys
            340                 345                 350
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Ala Met Glu Ala Gln Thr Ile Ile Thr Gln Glu Leu Lys Arg Phe Glu
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Ala Trp Arg Asp Ser Leu Glu Thr Val Pro Thr Ile Lys Lys Leu Arg
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Ser Tyr Ala Asp Arg Ile Arg Ala Ser Glu Leu Glu Lys Cys Leu Gln
385                 390                 395                 400

Lys Ile Gly Glu Asp Ala Leu Thr Lys Lys Met Arg Arg Ser Ile Glu
                405                 410                 415

Glu Leu Ser Thr Gly Ile Val Asn Lys Leu Leu His Gly Pro Leu Gln
            420                 425                 430

His Leu Arg Cys Asp Gly Ser Asp Ser Arg Thr Leu Asp Glu Thr Leu
        435                 440                 445

Glu Asn Met His Ala Leu Asn Arg Met Phe Ser Leu Asp Thr Glu Lys
    450                 455                 460

Ala Ile Ile Glu Gln Lys Ile Lys Ala Lys Val Glu Lys Ser Gln Asn
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<210> 10
<211> 25
<212> PRT
<213> Glycine max

<400> 10
Met Ala Val Ser Thr Thr Phe Ser Gly Ala Lys Leu Glu Ala Leu Leu
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Leu Lys Cys Ser Ser Ser Ser Ser Ser
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<210> 11
<211> 2055
<212> DNA
<213> Glycine max

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<211> 536
<212> PRT
<213> Glycine max

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Phe Thr Thr Phe Pro Gly Gln Asn Arg Arg Thr Leu Ile Gln Arg Gly
35 40 45

Val Ile Arg Cys Asp Ala Gln Pro Ser Asp Ala Ser Ser Val Ala Pro
50 55 60

Asn Asn Ala Thr Ala Leu Ser Ala Leu Glu Gln Leu Lys Thr Ser Ala
65 70 75 80

Ala Asp Arg Tyr Thr Lys Glu Arg Ser Ser Ile Ile Ala Ile Gly Leu
85 90 95

Ser Val His Thr Ala Pro Val Glu Met Arg Glu Lys Leu Ala Ile Pro
100 105 110

Glu Ala Glu Trp Pro Arg Ala Ile Ala Glu Leu Cys Ser Leu Asn His
115 120 125

Ile Glu Glu Ala Ala Val Leu Ser Thr Cys Asn Arg Met Glu Ile Tyr
130 135 140

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Val Leu Ala Leu Ser Gln His Arg Gly Val Lys Glu Val Met Glu Trp
145                 150                 155                 160

Met Ser Lys Thr Ser Ser Val Pro Val Ser Glu Leu Ser Gln His Arg
                165                 170                 175

Phe Leu Leu Tyr Asn Asn Asp Ala Thr Gln His Leu Phe Glu Val Ser
            180                 185                 190

Ala Gly Leu Asp Ser Leu Val Leu Gly Glu Gly Gln Ile Leu Ser Gln
        195                 200                 205

Val Lys Gln Val Val Lys Val Gly Gln Gly Val Asn Gly Phe Gly Arg
    210                 215                 220

Asn Ile Ser Gly Leu Phe Lys His Ala Ile Thr Val Gly Lys Arg Val
225                 230                 235                 240

Arg Thr Glu Thr Asn Ile Ala Ser Gly Ala Val Ser Val Ser Ser Ala
                245                 250                 255

Ala Val Glu Leu Ala Tyr Met Lys Leu Pro Glu Ala Ser His Asp Asn
            260                 265                 270

Ala Arg Met Leu Val Ile Gly Ala Gly Lys Met Gly Lys Leu Val Ile
        275                 280                 285

Lys His Leu Val Ala Lys Gly Cys Lys Lys Met Val Val Val Asn Arg
    290                 295                 300

Thr Glu Glu Arg Val Ala Ala Ile Arg Glu Glu Leu Lys Asp Ile Glu
305                 310                 315                 320

Ile Ile Tyr Lys Pro Leu Ser Glu Met Leu Thr Cys Ala Gly Glu Ala
                325                 330                 335

Asp Leu Val Phe Thr Ser Thr Ala Ser Glu Asn Pro Leu Phe Leu Lys
            340                 345                 350

Glu His Val Lys Asp Leu Pro Pro Ala Ser Gln Glu Val Gly Gly Arg
        355                 360                 365

Arg Phe Phe Ile Asp Ile Ser Val Pro Arg Asn Val Gly Ser Cys Val
    370                 375                 380

Ser Asp Leu Glu Ser Val Arg Val Tyr Asn Val Asp Asp Leu Lys Glu
385                 390                 395                 400

Val Val Ala Ala Asn Lys Glu Asp Arg Leu Arg Lys Ala Met Glu Ala
                405                 410                 415

Gln Ala Ile Ile Ala Glu Glu Ser Lys Gln Phe Glu Ala Trp Arg Asp
            420                 425                 430

Ser Leu Glu Thr Val Pro Thr Ile Lys Lys Leu Arg Ala Tyr Ala Glu
        435                 440                 445

Arg Ile Arg Leu Ala Glu Leu Glu Lys Cys Leu Gly Lys Met Gly Asp
    450                 455                 460
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Asp Ile Pro Lys Lys Thr Arg Arg Ala Val Asp Asp Leu Ser Arg Gly
465                 470                 475                 480

Ile Val Asn Lys Leu Leu His Gly Pro Met Gln His Leu Arg Cys Asp
                485                 490                 495

Gly Asn Asp Ser Arg Thr Leu Ser Glu Thr Leu Glu Asn Met Asn Ala
            500                 505                 510

Leu Asn Arg Met Phe Asn Leu Glu Thr Glu Ile Ser Val Leu Glu Glu
        515                 520                 525

Lys Ile Arg Ala Lys Val Glu Gln
    530                 535
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<210> 13
<211> 507
<212> DNA
<213> Glycine max

<220>
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<400> 13
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acctcctcct ccctcttctc ctccgcccga ttccgccact ccctccgccc accgccttct 180
caactcttct tcccacgcgc gcgcttttcc gtcaacgcca cgtgtccctt cttctccgat 240
aacaacaatt cccttcccca aaacgtcgtc gcttccaaac cctcccctct cgagttgctc 300
aaagcttcct ccgccgacag atatacgaag gaaaagagtt gcattatttg catagggctg 360
aacattcaca ctgctcccgt tgagatgcgt gagaagcttg caattccaag aatcccattg 420
ggctcaggct attaaggacc tttgcgcttt gaaccatatc gaagaagcgc gggtctaaga 480
agtggtaacg caaggngatn tatgttg 507

<210> 14
<211> 46
<212> PRT
<213> Glycine max

<400> 14
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Ala Ser Lys Pro Ser Pro Leu Glu Leu Leu Lys Ala Ser Ser Ala Asp
  1               5                  10                  15

Arg Tyr Thr Lys Glu Lys Ser Cys Ile Ile Cys Ile Gly Leu Asn Ile
             20                  25                  30

His Thr Ala Pro Val Glu Met Arg Glu Lys Leu Ala Ile Pro
         35                  40                  45
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<210> 15
<211> 1983

<212> DNA
<213> Glycine max

<400> 15
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cgccaccacc tcctcctccc tcttctcctc cgcccgattc cgccactccc tccgcccacc 180
gccttctcaa ctcttcttcc cacgcgcgcg cttttccgtc aacgccacgt gtcccttctt 240
ctccgataac aacaattccc ttccccaaaa cgtcgtcgct tccaaaccct cccctctcga 300
gttgctcaaa gcttcctccg ccgacagata tacgaaggaa aagagttgca ttatttgcat 360
agggctgaac attcacactg ctcccgttga gatgcgtgag aagcttgcaa ttccagaatc 420
ccattgggct caggctatta aggacctttg cgctttgaac catatcgaag aagccgcggt 480
tctcagcacg tgtaaccgca tggagatcta tgttgtggct ctttcccagc accgtggtgt 540
taaggaagtt actgattgga tgtctaaggt gagcgggatt tcaatacctg agctttgtga 600
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gcttgactca cttgttcttg gggaaggtca aattcttgct caggtgaagc aggttgtgaa 720
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caattatttt taacattatg cagaagtaat tggacatcga tagtccaatt gaattcaaca 1860
tgtatttttc tcaatgagcc tgatatagat cagttgtaaa ttcatgatcc tcatgacaac 1920
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aaa 1983

<210> 16
<211> 467
<212> PRT
<213> Glycine max

<400> 16
Ser Pro Leu Glu Leu Leu Lys Ala Ser Ser Ala Asp Arg Tyr Thr Lys
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Glu Lys Ser Cys Ile Ile Cys Ile Gly Leu Asn Ile His Thr Ala Pro
20 25 30

Val Glu Met Arg Glu Lys Leu Ala Ile Pro Glu Ser His Trp Ala Gln
35 40 45

Ala Ile Lys Asp Leu Cys Ala Leu Asn His Ile Glu Glu Ala Ala Val
50 55 60

Leu Ser Thr Cys Asn Arg Met Glu Ile Tyr Val Val Ala Leu Ser Gln
65 70 75 80

```
His Arg Gly Val Lys Glu Val Thr Asp Trp Met Ser Lys Val Ser Gly
                 85                  90                  95

Ile Ser Ile Pro Glu Leu Cys Glu His Gln Val Leu Leu Tyr Asn Ala
            100                 105                 110

Asp Val Thr Gln His Leu Phe Glu Val Ala Ala Gly Leu Asp Ser Leu
        115                 120                 125

Val Leu Gly Glu Gly Gln Ile Leu Ala Gln Val Lys Gln Val Val Lys
    130                 135                 140

Ala Gly Gln Gly Val Pro Gly Phe Asp Lys Lys Ile Ser Gly Leu Phe
145                 150                 155                 160

Lys Gln Ala Ile Ser Val Gly Lys Arg Val Arg Thr Glu Thr Asn Ile
                165                 170                 175

Ser Ser Gly Ser Val Ser Val Ser Ser Ala Ala Val Glu Leu Ala Leu
            180                 185                 190

Met Lys Leu Pro Asp Ser Ser Phe Ala Asp Ser Gly Val Leu Val Val
        195                 200                 205

Gly Ala Gly Lys Met Gly Lys Leu Val Ile Lys His Leu Ala Ala Lys
    210                 215                 220

Gly Cys Arg Arg Met Val Val Val Asn Arg Thr Glu Glu Lys Val Asn
225                 230                 235                 240

Ala Ile Arg Lys Glu Leu Lys Asp Val Glu Ile Val Phe Arg Pro Phe
                245                 250                 255

Ser Asp Met Leu Ala Cys Ala Ala Glu Ala Asp Val Ile Phe Thr Ser
            260                 265                 270

Thr Ala Ser Glu Ser Pro Leu Phe Ser Lys Gln Asn Val Gln Met Leu
        275                 280                 285

Pro Leu Val Asn His Gly Arg Arg Arg Leu Phe Val Asp Ile Ser Ile
    290                 295                 300

Pro Arg Asn Val Glu Pro Gly Val Ser Asp Leu Glu Thr Ala Leu Val
305                 310                 315                 320

Tyr Asn Val Asp Asp Leu Lys Glu Val Val Ala Ala Asn Lys Glu Asp
                325                 330                 335

Arg Leu Gln Lys Ala Glu Glu Ala Arg Gly Ile Ile Leu Glu Glu Leu
            340                 345                 350

Asn Lys Phe Glu Ala Trp Lys Asp Ser Leu Glu Thr Val Pro Thr Ile
        355                 360                 365

Lys Lys Phe Arg Ala Tyr Val Glu Arg Ile Arg Ala Ser Glu Met Glu
    370                 375                 380

Lys Cys Leu Ser Lys Met Gly Pro Asp Val Ser Lys Gln Gln Lys Asp
385                 390                 395                 400
```

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Ala Ile Tyr Ala Leu Ser Met Gly Ile Val Asn Lys Leu Leu His Gly
                405                 410                 415

Pro Met Gln His Leu Arg Cys Asp Gly Lys Asn Asp Ser Ser Leu Ser
            420                 425                 430

Glu Val Leu Glu Asn Met Arg Ala Leu Asn Arg Met Tyr Asp Leu Glu
        435                 440                 445

Thr Glu Ile Ser Leu Ile Glu Glu Lys Ile Arg Val Lys Met Glu Arg
    450                 455                 460

Val Gln Lys
465
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<210> 17
<211> 468
<212> DNA
<213> Glycine max

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ttctccggtg cacaaattgg aggctctatt gctcaaatgt ncttcctcct cttcctcacc 120
accgccttca aggtcatcat tcaccacttt tcccggccaa aacagaagaa ccctcattca 180
gagaggggtt attcgctgcg acgctcagcc ctctgatgca tcatctgttg cnccaaataa 240
tgccaccgct ctctccgctc ttgagcagct caagacttct gcagctgata gatatacnaa 300
tgaaagcagc agnattaccg ccattggggt cagtgtgcaa ctgcactgng aaatccgtgn 360
aaacttgcaa tcaggannag aatngccnga nntattnaan agtgtgngtn tgatatttaa 420
gannnnnngt nnantactgn natcgntgtg nttnngtctg cctgtaca 468

<210> 18
<211> 26
<212> PRT
<213> Glycine max

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Met Ala Val Ser Thr Thr Phe Xaa Pro Val His Lys Leu Glu Ala Leu
1 5 10 15

Leu Leu Lys Cys Xaa Ser Ser Ser Ser Ser
20 25

<210> 19
<211> 1480
<212> DNA
<213> Triticum aestivum

<400> 19
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catgcgtgaa aaacttgctg ttgcagagga actatggccc cgtgctattt cagaactcac 120
cagtctgaat catatcgaag aggctgctgt tctgagtacc tgcaacagaa tggaaatata 180
tgtggtggct ttatcgtgga accgtggtat tagagaagta gtagactgga tgtcaaagaa 240
aagtggaatc cctgcttccg agctgaggga gcatctcttt atgttgcgtg acagtgatgc 300
cacacgccat ctgtttgagg tatccgccgg gcttgactct ttggttcttg gagaaggaca 360
aatccttgct caagttaaac aagttgtcag aaatgggcaa aacagtggag gcttgggaaa 420
gaacattgat aggatgttca aggatgcaat cacagctgga aagcgtgtcc gctgtgaaac 480
caacatatca gctggtgctg tgtctgtcag ttcagctgca gttgaattgg ccatgatgaa 540
gcttccaaag tctgaatgct tgtcagctag gatgcttttg attggtgctg gcaaaatggg 600
aaaattggtt gtcaaacatt tgattgccaa aggatgcaag aaggttgttg tggtgaaccg 660
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gcctcttaca gagatgtatg aagccgctgc tgaagctgat gtcgtgttca caagcaccgc 780
atctgaatcc ttattattca cgaaggagca tgcagaggcg cttcctccta tttctcttgc 840
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atctgaggtg gagcatgcac gggtatacaa tgtcgacgac ttgaaagagg tggtggaagc 960
caataaggaa gaccgtgtga ggaaagcaat ggaggcccaa acaatcatta cccaagaact 1020
gaaacggttc gaggcatgga gggactcact ggagacggtt ccgaccatca aaaagctgag 1080
gtcgtacgcc gacaggatca gggcatccga gctcgagaag tgtctgcaga agatcgggga 1140
agacaatctc aacaagaaga tgagaaggtc catcgaggag ctgagcacgg gcatagtgaa 1200
caagctcctt cacggcccac tgcagcacct gagatgcgac ggcagcgaca gccgcaccct 1260
ggacgaaacg cttgagaaca tgcacgccct caacagaatg ttcaacctcg acacggagaa 1320
ggcggtcctt gagcagaaga tcaaggccaa ggtagagaag acccaaagct gagaccagga 1380
gacacttgcc cgtctgtata tctacttata ctgctcccag aatgtcgcta cattctaatc 1440
ccaatatttt tcttttggat cctccaaaaa aaaaaaaaaa 1480

<210> 20
<211> 454
<212> PRT
<213> Triticum aestivum

<400> 20
Glu Lys Ser Ser Ile Ala Val Ile Gly Leu Ser Val His Thr Ala Pro
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Val Asp Met Arg Glu Lys Leu Ala Val Ala Glu Glu Leu Trp Pro Arg
20 25 30

Ala Ile Ser Glu Leu Thr Ser Leu Asn His Ile Glu Glu Ala Ala Val
35 40 45

Leu Ser Thr Cys Asn Arg Met Glu Ile Tyr Val Val Ala Leu Ser Trp
50 55 60

Asn Arg Gly Ile Arg Glu Val Val Asp Trp Met Ser Lys Lys Ser Gly
65 70 75 80

Ile Pro Ala Ser Glu Leu Arg Glu His Leu Phe Met Leu Arg Asp Ser
85 90 95

Asp Ala Thr Arg His Leu Phe Glu Val Ser Ala Gly Leu Asp Ser Leu
100 105 110

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Val Leu Gly Glu Gly Gln Ile Leu Ala Gln Val Lys Gln Val Val Arg
        115                 120                 125

Asn Gly Gln Asn Ser Gly Gly Leu Gly Lys Asn Ile Asp Arg Met Phe
    130                 135                 140

Lys Asp Ala Ile Thr Ala Gly Lys Arg Val Arg Cys Glu Thr Asn Ile
145                 150                 155                 160

Ser Ala Gly Ala Val Ser Val Ser Ser Ala Ala Val Glu Leu Ala Met
                165                 170                 175

Met Lys Leu Pro Lys Ser Glu Cys Leu Ser Ala Arg Met Leu Leu Ile
            180                 185                 190

Gly Ala Gly Lys Met Gly Lys Leu Val Val Lys His Leu Ile Ala Lys
        195                 200                 205

Gly Cys Lys Lys Val Val Val Val Asn Arg Ser Val Glu Arg Val Asp
    210                 215                 220

Ala Ile Arg Gln Glu Met Lys Asp Ile Glu Ile Val Tyr Arg Pro Leu
225                 230                 235                 240

Thr Glu Met Tyr Glu Ala Ala Ala Glu Ala Asp Val Val Phe Thr Ser
                245                 250                 255

Thr Ala Ser Glu Ser Leu Leu Phe Thr Lys Glu His Ala Glu Ala Leu
            260                 265                 270

Pro Pro Ile Ser Leu Ala Val Gly Gly Val Arg Leu Phe Val Asp Ile
        275                 280                 285

Ser Val Pro Arg Asn Val Gly Ala Cys Val Ser Glu Val Glu His Ala
    290                 295                 300

Arg Val Tyr Asn Val Asp Asp Leu Lys Glu Val Val Glu Ala Asn Lys
305                 310                 315                 320

Glu Asp Arg Val Arg Lys Ala Met Glu Ala Gln Thr Ile Ile Thr Gln
                325                 330                 335

Glu Leu Lys Arg Phe Glu Ala Trp Arg Asp Ser Leu Glu Thr Val Pro
            340                 345                 350

Thr Ile Lys Lys Leu Arg Ser Tyr Ala Asp Arg Ile Arg Ala Ser Glu
        355                 360                 365

Leu Glu Lys Cys Leu Gln Lys Ile Gly Glu Asp Asn Leu Asn Lys Lys
    370                 375                 380

Met Arg Arg Ser Ile Glu Glu Leu Ser Thr Gly Ile Val Asn Lys Leu
385                 390                 395                 400

Leu His Gly Pro Leu Gln His Leu Arg Cys Asp Gly Ser Asp Ser Arg
                405                 410                 415

Thr Leu Asp Glu Thr Leu Glu Asn Met His Ala Leu Asn Arg Met Phe
            420                 425                 430
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Asn Leu Asp Thr Glu Lys Ala Val Leu Glu Gln Lys Ile Lys Ala Lys
        435                 440                 445

Val Glu Lys Thr Gln Ser
    450
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<211> 846
<212> DNA
<213> Zea mays

<400> 21
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ccgccgccgt ggcgtccggg gtctcggccc ggccggccgc gccgaggagg gcttctgcgg 180
gacgccgcgc tcggctgtcg gtggtgcggg ccgcgatatc cctcgagaag ggcgagaagg 240
cgtacacggt gcagaagtcc gaggagatct tcaacgccgc caaggagctg atgcctggag 300
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tggtcatctc tgccgtgcca agtatcgaaa tggtccgctt tgtcaactca gggacagaag 600
cctgcatggg agcgctccgc ctcgtgcgcg cattcaccgg gcgggagaag atcatcaagt 660
tcgaaggctg ctaccatggc catgccgatt ccttccttgt caaagctggc agtggtgtcg 720
ccacccttgg cctcccagac tcccctggcg tccccaaggg ggccacctac gagactctaa 780
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ttgctg 846

<210> 22
<211> 248
<212> PRT
<213> Zea mays

<400> 22
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Met Ala Gly Ala Ala Ala Ala Ala Ala Val Ala Ser Gly Val Ser Ala
  1               5                  10                  15

Arg Pro Ala Ala Pro Arg Arg Ala Ser Ala Gly Arg Arg Ala Arg Leu
             20                  25                  30

Ser Val Val Arg Ala Ala Ile Ser Leu Glu Lys Gly Glu Lys Ala Tyr
         35                  40                  45

Thr Val Gln Lys Ser Glu Glu Ile Phe Asn Ala Ala Lys Glu Leu Met
     50                  55                  60

Pro Gly Gly Val Asn Ser Pro Val Arg Ala Phe Lys Ser Val Gly Gly
 65                  70                  75                  80

Gln Pro Val Val Phe Asp Ser Val Lys Gly Ser Arg Met Trp Asp Val
                 85                  90                  95

Asp Gly Asn Glu Tyr Ile Asp Tyr Val Gly Ser Trp Gly Pro Ala Ile
            100                 105                 110

Ile Gly His Ala Asp Asp Lys Val Asn Ala Ala Leu Ile Glu Thr Leu
        115                 120                 125
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Lys Lys Gly Thr Ser Phe Gly Ala Pro Cys Leu Leu Glu Asn Val Leu
    130                 135                 140

Ala Glu Met Val Ile Ser Ala Val Pro Ser Ile Glu Met Val Arg Phe
145                 150                 155                 160

Val Asn Ser Gly Thr Glu Ala Cys Met Gly Ala Leu Arg Leu Val Arg
                165                 170                 175

Ala Phe Thr Gly Arg Glu Lys Ile Ile Lys Phe Glu Gly Cys Tyr His
            180                 185                 190

Gly His Ala Asp Ser Phe Leu Val Lys Ala Gly Ser Gly Val Ala Thr
        195                 200                 205

Leu Gly Leu Pro Asp Ser Pro Gly Val Pro Lys Gly Ala Thr Tyr Glu
    210                 215                 220

Thr Leu Thr Ala Pro Tyr Asn Asp Val Glu Ala Val Lys Lys Leu Phe
225                 230                 235                 240

Glu Asp Asn Ala Gly Glu Ile Ala
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<210> 23
<211> 461
<212> DNA
<213> Oryza sativa

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<400> 23
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ccgtcgtgcg ggcggncatc tccgtcgaga agggggagaa ggcgtacacg gtggagaagt 180
ccgaggagat cttcaacgcc gccaaggagt tgatgcctgn gggtgttaat tcaccagttc 240
gtgccttcaa atcagttggt gggcanccca ttgtgtttga ttctgtgaag ggtctcgtat 300
gtgggatgtg gatggaaatg aatatatcga ttangttggg ntcctgangg tcntgngatn 360
atcgggtcat gcagatgata cngtnaatgc agcatnattg aacncaaaan aaaganctnc 420
tttgggcccc atgntatggc atgtttggtt nanaggtaac t 461

<210> 24
<211> 100
<212> PRT
<213> Oryza sativa

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<400> 24
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Pro Ser Pro Ser Arg Ala Arg Ala Pro Arg Ser Val Val Arg Ala Xaa
20 25 30

Ile Ser Val Glu Lys Gly Glu Lys Ala Tyr Thr Val Glu Lys Ser Glu
35 40 45

Glu Ile Phe Asn Ala Ala Lys Glu Leu Met Pro Xaa Gly Val Asn Ser
50 55 60

Pro Val Arg Ala Phe Lys Ser Val Gly Gly Xaa Pro Ile Val Phe Xaa
65 70 75 80

Phe Cys Glu Gly Ser Arg Met Trp Asp Val Asp Gly Asn Glu Tyr Ile
85 90 95

Asp Xaa Val Gly
100

<210> 25
<211> 1643
<212> DNA
<213> Oryza sativa

<400> 25
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ccacggtccg tcgtgcgggc ggccatctcc gtcgagaagg gggagaaggc gtacacggtg 180
gagaagtccg aggagatctt caacgccgcc aaggagttga tgcctggggg tgttaattca 240
ccagttcgtg ccttcaaatc agttggtggg cagcccattg tgtttgattc tgtgaagggt 300
tctcgtatgt gggatgtgga tggaaatgaa tatatcgatt atgttggttc ctggggtcct 360

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gcgatcatcg gtcatgcaga tgatacggtg aatgcagcat tgattgaaac tctaaagaaa  420
ggaactagct ttggcgctcc atgtgtgttg gagaatgtgt tggctgagat ggtcatctct  480
gctgtaccaa gtatcgaaat ggtccgtttt gtcaattcag ggacagaagc ctgcatggga  540
gcgctgcgcc ttgtgcgtgc attcactggg agagagaaga ttctcaagtt tgaaggttgt  600
taccatggcc atgcagattc cttccttgtt aaagctggca gtggtgttgc caccttggc   660
ctcccagact cccctggagt ccccaaggga gccacatctg agactctaac ggcaccatac  720
aatgatgtcg aggcagtgaa aaaactgttt gaggagaaca aagggcagat tgctgctgtc  780
ttccttgagc ccgttgttgg caatgctggc ttcattcctc cacagcccgg ttttctgaat  840
gctctccgtg acttgacgaa acaagacggt gcacttttgg tctttgatga agtgatgacg  900
ggtttccgtt tagcttatgg tggggctcaa gaatacttcg ggatcacccc tgatgtgtca  960
acattgggaa aatcatcggt cggtcttcca gttggcgctt atggtggacg taaggacatc 1020
atggagatgg ttgctccagc agggccaatg taccaggcag gaaccctcag tggaaaccct 1080
ctagctatga ctgctggaat ccacacactc aagcgtctga tggagcctgg aacctacgat 1140
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cgccggatat agagtcttcg acagttgagc ttagctacgg cttgtgaatc acttgctatt 1500
tttcatttgt gttgtacact gttagttcta catcactcaa aatctgtatt gtgcagcagc 1560
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<210> 26
<211> 478
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (322)

<400> 26

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Gly Ile Ser Ala Arg Pro Val Ala Pro Arg Pro Ser Pro Ser Arg Ala
             20                  25                  30

Arg Ala Pro Arg Ser Val Val Arg Ala Ala Ile Ser Val Glu Lys Gly
         35                  40                  45

Glu Lys Ala Tyr Thr Val Glu Lys Ser Glu Glu Ile Phe Asn Ala Ala
     50                  55                  60

Lys Glu Leu Met Pro Gly Gly Val Asn Ser Pro Val Arg Ala Phe Lys
 65                  70                  75                  80

Ser Val Gly Gly Gln Pro Ile Val Phe Asp Ser Val Lys Gly Ser Arg
                 85                  90                  95

Met Trp Asp Val Asp Gly Asn Glu Tyr Ile Asp Tyr Val Gly Ser Trp
            100                 105                 110

Gly Pro Ala Ile Ile Gly His Ala Asp Asp Thr Val Asn Ala Ala Leu
        115                 120                 125

Ile Glu Thr Leu Lys Lys Gly Thr Ser Phe Gly Ala Pro Cys Val Leu
    130                 135                 140
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```
Glu Asn Val Leu Ala Glu Met Val Ile Ser Ala Val Pro Ser Ile Glu
145                 150                 155                 160

Met Val Arg Phe Val Asn Ser Gly Thr Glu Ala Cys Met Gly Ala Leu
                165                 170                 175

Arg Leu Val Arg Ala Phe Thr Gly Arg Glu Lys Ile Leu Lys Phe Glu
            180                 185                 190

Gly Cys Tyr His Gly His Ala Asp Ser Phe Leu Val Lys Ala Gly Ser
        195                 200                 205

Gly Val Ala Thr Leu Gly Leu Pro Asp Ser Pro Gly Val Pro Lys Gly
    210                 215                 220

Ala Thr Ser Glu Thr Leu Thr Ala Pro Tyr Asn Asp Val Glu Ala Val
225                 230                 235                 240

Lys Lys Leu Phe Glu Glu Asn Lys Gly Gln Ile Ala Ala Val Phe Leu
                245                 250                 255

Glu Pro Val Val Gly Asn Ala Gly Phe Ile Pro Pro Gln Pro Gly Phe
            260                 265                 270

Leu Asn Ala Leu Arg Asp Leu Thr Lys Gln Asp Gly Ala Leu Leu Val
        275                 280                 285

Phe Asp Glu Val Met Thr Gly Phe Arg Leu Ala Tyr Gly Gly Ala Gln
    290                 295                 300

Glu Tyr Phe Gly Ile Thr Pro Asp Val Ser Thr Leu Gly Lys Ile Ile
305                 310                 315                 320

Gly Xaa Gly Leu Pro Val Gly Ala Tyr Gly Gly Arg Lys Asp Ile Met
                325                 330                 335

Glu Met Val Ala Pro Ala Gly Pro Met Tyr Gln Ala Gly Thr Leu Ser
            340                 345                 350

Gly Asn Pro Leu Ala Met Thr Ala Gly Ile His Thr Leu Lys Arg Leu
        355                 360                 365

Met Glu Pro Gly Thr Tyr Asp Tyr Leu Asp Lys Ile Thr Gly Asp Leu
    370                 375                 380

Val Arg Gly Val Leu Asp Ala Gly Ala Lys Thr Gly His Glu Met Cys
385                 390                 395                 400

Gly Gly His Ile Arg Gly Met Phe Gly Phe Phe Phe Thr Ala Gly Pro
                405                 410                 415

Val His Asn Phe Gly Asp Ala Lys Lys Ser Asp Thr Ala Lys Phe Gly
            420                 425                 430

Arg Phe Tyr Arg Gly Met Leu Glu Glu Gly Val Tyr Leu Ala Pro Ser
        435                 440                 445

Gln Phe Glu Ala Gly Phe Thr Ser Leu Ala His Thr Ser Gln Asp Ile
    450                 455                 460
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Glu Lys Thr Val Glu Ala Ala Ala Lys Val Leu Arg Arg Ile
465 470 475

<210> 27
<211> 650
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (321)

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<221> unsure
<222> (334)

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<400> 27
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ctccggcatc tcgatccgga cggtcgccgc tcctaagatc tcgcgcgcgc ctcgctctcg 180

gtcggtggtg aagggcggcc gtttccttag gcgagaaggc ttacacggtt caagaaatct 240
gaggagattt tcaacgctgc caaaggaatt tgatgcctgg aggtgttaat tcaaccaatc 300
cgtgccttca aaatcaatcc nggcgggaac ccanaatttt tgattccgtn aaaggntctc 360
anatgtngga ttccnatgga aatgaataat tgataagttn gntcctgggg cctgcancat 420
tggtcacgca aattacaang tgaagctgca ttattgaaan ccgnaanaag gaacnacttt 480
gggccaagtn cttgggaang ttttggnaaa atggcaactc gctgtccnan tacaaanggt 540
cctttgtaaa tcaagacaaa actgatggga gaatcgcctt ttcgtcatta ctggaaggaa 600
anntccaant taagggttca tgcangaaat ccttcnctta aaagaagggn 650

<210> 28
<211> 67
<212> PRT
<213> Triticum aestivum

<400> 28
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Ile Arg Thr Val Ala Ala Pro Lys Ile Ser Arg Ala Pro Arg Ser Arg
20 25 30

Ser Val Val Lys Gly Gly Arg Phe Leu Arg Arg Glu Gly Leu His Gly
35 40 45

Ser Arg Asn Leu Arg Arg Phe Ser Thr Leu Pro Lys Glu Phe Asp Ala
50 55 60

Trp Arg Cys
65

<210> 29
<211> 542
<212> PRT
<213> soybean

<400> 29
Met Ala Val Ser Thr Ser Phe Pro Gly Ala Lys Leu Glu Ala Leu Leu
1 5 10 15

Leu Lys Cys Gly Ser Ser Asn Ala Ala Thr Ala Thr Ala Thr Thr Thr
20 25 30

Thr His Leu Ser Cys Phe Cys Lys Thr Arg Lys Thr Leu Val Gln Ser
35 40 45

Gln Arg Gly Pro Ile Arg Cys Glu Ala Ser Ser Ala Ser Asp Val Val
50 55 60

Ala Asp Ala Thr Lys Lys Ala Ala Ser Val Ser Ala Leu Glu Gln Leu
65 70 75 80

Lys Thr Ser Ala Ala Asp Arg Tyr Thr Lys Glu Arg Ser Ser Val Met
85 90 95

Val Ile Gly Leu Ser Val His Ser Thr Pro Val Glu Met Arg Glu Lys
100 105 110

Leu Ala Ile Pro Glu Ala Glu Trp Pro Arg Ala Ile Ala Glu Leu Cys
115 120 125

Ser Leu Asn His Ile Glu Glu Ala Ala Val Leu Ser Thr Cys Asn Arg
130 135 140

Met Glu Ile Tyr Val Val Ala Leu Ser Lys His Arg Gly Val Lys Glu
145 150 155 160

Val Thr Glu Trp Met Ser Lys Thr Ser Gly Ile Pro Val Ala Asp Leu
165 170 175

Cys Gln His Gln Phe Leu Leu Tyr Asn Lys Asp Ala Thr Gln His Leu
180 185 190

Phe Glu Val Ser Ala Gly Leu Asp Ser Leu Val Leu Gly Glu Gly Gln
195 200 205

Ile Leu Ala Gln Val Lys Gln Val Val Lys Val Gly Gln Gly Val Asn
210 215 220

Gly Phe Gly Arg Asn Ile Ser Gly Leu Phe Lys His Ala Ile Thr Val
225 230 235 240

Gly Lys Arg Val Arg Thr Glu Thr Asn Ile Ala Ala Gly Ala Val Ser
245 250 255

Val Ser Ser Ala Ala Val Glu Leu Ala Leu Met Lys Leu Pro Glu Ala
260 265 270

Ser His Ala Asn Ala Arg Met Leu Val Ile Gly Ala Gly Lys Met Gly
275 280 285

Lys Leu Val Ile Lys His Leu Val Ala Lys Gly Cys Thr Lys Met Val
290 295 300

Val Val Asn Arg Ser Glu Glu Arg Val Ala Ala Ile Arg Glu Glu Ile
305 310 315 320

Lys Asp Val Glu Ile Ile Tyr Lys Pro Leu Ser Glu Met Leu Thr Cys
325 330 335

Ile Gly Glu Ala Asp Val Val Phe Thr Ser Thr Ala Ser Glu Asn Pro
340 345 350

Leu Phe Leu Lys Asp Asp Val Lys Glu Leu Pro Pro Ala Thr Asp Glu
355 360 365

Val Gly Gly Arg Arg Leu Phe Val Asp Ile Ser Val Pro Arg Asn Val
370 375 380

Gly Ser Cys Leu Ser Asp Leu Glu Ser Val Arg Val Tyr Asn Val Asp
385 390 395 400

Asp Leu Lys Glu Val Val Ala Ala Asn Lys Glu Asp Arg Leu Arg Lys
405 410 415

Ala Met Glu Ala Gln Ala Ile Ile Gly Glu Glu Ser Lys Gln Phe Glu
420 425 430

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Ala Trp Arg Asp Ser Leu Glu Thr Val Pro Thr Ile Lys Lys Leu Arg
        435                 440                 445

Ala Tyr Ala Glu Arg Ile Arg Leu Ala Glu Leu Glu Lys Cys Leu Gly
    450                 455                 460

Lys Met Gly Asp Asp Ile Asn Lys Lys Thr Gln Arg Ala Val Asp Asp
465                 470                 475                 480

Leu Ser Arg Gly Ile Val Asn Lys Leu Leu His Gly Pro Met Gln His
                485                 490                 495

Leu Arg Cys Asp Gly Ser Asp Ser Arg Thr Leu Ser Glu Thr Leu Glu
            500                 505                 510

Asn Met His Ala Leu Asn Arg Met Phe Asn Leu Glu Thr Glu Ile Ser
        515                 520                 525

Val Leu Glu Gln Lys Ile Arg Ala Lys Val Glu Gln Lys Pro
    530                 535                 540


<210> 30
<211> 469
<212> PRT
<213> [Hordeum vulgare]

<400> 30
Met Ala Gly Ala Ala Ala Ala Val Ala Ser Gly Ile Ser Ile Arg Pro
  1               5                  10                  15

Val Ala Ala Pro Lys Ile Ser Arg Ala Pro Arg Ser Arg Ser Val Val
             20                  25                  30

Arg Ala Ala Val Ser Ile Asp Glu Lys Ala Tyr Thr Val Gln Lys Ser
         35                  40                  45

Glu Glu Ile Phe Asn Ala Ala Lys Glu Leu Met Pro Gly Gly Val Asn
     50                  55                  60

Ser Pro Val Arg Ala Phe Lys Ser Val Gly Gly Gln Pro Ile Val Phe
 65                  70                  75                  80

Asp Ser Val Lys Gly Ser His Met Trp Asp Val Asp Gly Asn Glu Tyr
                 85                  90                  95

Ile Asp Tyr Val Gly Ser Trp Gly Pro Ala Ile Ile Gly His Ala Asp
            100                 105                 110

Asp Lys Val Asn Ala Ala Leu Ile Glu Thr Leu Lys Lys Gly Thr Ser
        115                 120                 125

Phe Gly Ala Pro Cys Ala Leu Glu Asn Val Leu Ala Gln Met Val Ile
    130                 135                 140

Ser Ala Val Pro Ser Ile Glu Met Val Arg Phe Val Asn Ser Gly Thr
145                 150                 155                 160

Glu Ala Cys Met Gly Ala Leu Arg Leu Val Arg Ala Phe Thr Gly Arg
                165                 170                 175
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Glu Lys Ile Leu Lys Phe Glu Gly Cys Tyr His Gly His Ala Asp Ser
            180                 185                 190

Phe Leu Val Lys Ala Gly Ser Gly Val Ala Thr Leu Gly Leu Pro Asp
        195                 200                 205

Ser Pro Gly Val Pro Lys Gly Ala Thr Val Gly Thr Leu Thr Ala Pro
    210                 215                 220

Tyr Asn Asp Ala Asp Ala Val Lys Lys Leu Phe Glu Asp Asn Lys Gly
225                 230                 235                 240

Glu Ile Ala Ala Val Phe Leu Glu Pro Val Val Gly Asn Ala Gly Phe
                245                 250                 255

Ile Pro Pro Gln Pro Ala Phe Leu Asn Ala Leu Arg Glu Val Thr Lys
            260                 265                 270

Gln Asp Gly Ala Leu Leu Val Phe Asp Glu Val Met Thr Gly Phe Arg
        275                 280                 285

Leu Ala Tyr Gly Gly Ala Gln Glu Tyr Phe Gly Ile Thr Pro Asp Val
    290                 295                 300

Thr Thr Leu Gly Lys Ile Ile Gly Gly Gly Leu Pro Val Gly Ala Tyr
305                 310                 315                 320

Gly Gly Arg Lys Asp Ile Met Glu Met Val Ala Pro Ala Gly Pro Met
                325                 330                 335

Tyr Gln Ala Gly Thr Leu Ser Gly Asn Pro Leu Ala Met Thr Ala Gly
            340                 345                 350

Ile His Thr Leu Lys Arg Leu Met Glu Pro Gly Thr Tyr Glu Tyr Leu
        355                 360                 365

Asp Lys Val Thr Gly Glu Leu Val Arg Gly Ile Leu Asp Val Gly Ala
    370                 375                 380

Lys Thr Gly His Glu Met Cys Gly Gly His Ile Arg Gly Met Phe Gly
385                 390                 395                 400

Phe Phe Phe Ala Gly Gly Pro Val His Asn Phe Asp Asp Ala Lys Lys
                405                 410                 415

Ser Asp Thr Ala Lys Phe Gly Arg Phe His Arg Gly Met Leu Gly Glu
            420                 425                 430

Gly Val Tyr Leu Ala Pro Ser Gln Phe Glu Ala Gly Phe Thr Ser Leu
        435                 440                 445

Ala His Thr Thr Gln Asp Ile Glu Lys Thr Val Glu Ala Ala Glu Lys
    450                 455                 460

Val Leu Arg Trp Ile
465
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